

# White Paper Report

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Project Director: Gwen Evans (gwen@ohiolink.edu)

Institution: Wright State University Main Campus

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White Paper Report

Application Number: HD-51538-12

The Scholar's Dashboard:  
Creating a multidisciplinary tool via design and build workshops

Project Director: Gwen Evans

Award Recipient: Wright State University

Date Submitted: June 12, 2014

## Abstract

Despite challenges including a major shift in project personnel and the dissolution of the depository for which the project was originally intended, the Scholar's Dashboard project was a success in bringing together humanities scholars, librarians and archivists, and technologists to generate functional and technical requirements for digital humanities repositories. Many of these included principles already familiar to digital humanities practice (the ability to visualize or download search results, API's, etc.). On the other hand, the participants showed a greater willingness to consider commercial products and services than is common in the digital humanities community, both for their advanced functionalities and because software-as-a-service and commercial hosting may be more sustainable for many institutions than open-source and/or self-hosted solutions to digital humanities challenges.

## Project Activities

The NEH funded Scholar's Dashboard to support a series of three themed workshops to lay the groundwork for a new user interface for the OhioLINK Digital Resource Commons (DRC). At the time the grant was awarded (Spring, 2012), the DRC hosted more than a half a million digital items from 20 academic institutions and cultural heritage organizations. Materials include digitized manuscripts, digitized secondary source material, audio, video, official records, documents, and images. The final product of the grant-funded activities was to be a prototype or a set of technical specifications for a new DRC user interface. This new interface, a "Scholar's Dashboard," would allow a user to select entire collections or parts of collections, combine them, add their own descriptions or data, and visualize and present the information in various ways, such as map overlays, timelines, and social networks. Development would be driven by the needs and functional requirements of the participating teams of scholars and collection specialists. The prototyping process was to be dependent on the collaborations among teams: scholars with librarians and archivists focused on collections, and developers and technologists with communities of practice, focused on tools. In addition to this end product, the process was to pair scholars and librarians/archivists and brings together teams with different sorts of subject expertise to work directly with technologists, thus drawing simultaneously on the expertise of end users, collection creators, and technology staff. This was to be a model for future DRC modifications and innovations.

The project's deliverables and performance were affected by two major developments that occurred after the grant was awarded. The first was a significant shift in project personnel. Project Director (PD) John Magill left OhioLINK. Project Manager (PM) Gwen Evans, who at the time of the project's conceptualization was Coordinator of Library Information and Emerging Technologies at Bowling Green State University (BGSU), took a new position with OhioLINK, and soon became Interim Director and then Director of OhioLINK. Accordingly, in summer 2012, Gwen Evans became Program Director. Andy Schocket, Director of American Culture Studies and Associate Professor of History and American Culture Studies at BGSU took over as Project Manager. As indicated in the white paper, this new arrangement came with advantages and disadvantages. On the plus side, having a humanities scholar as PD worked better in the spirit of the project in that it ensured that scholars' concerns would be central to the development of the main deliverable, that is, functional requirements for a dashboard serving scholars' needs. Less positively, having a PD less directly involved with the DRC than Evans had been in her previous position resulted in some disconnection between the project and developments in the DRC.

All other things being equal, slightly less communication between the PD and the DRC would not have been consequential, except for the other major development that affected the project: the dissolution of the DRC. During the spring and fall of 2012, OhioLINK and its participating institutions reevaluated the DRC. The main challenge was one of financial sustainability. OhioLINK had not required participating units to contribute to the DRC's maintenance. It had also assumed that the DRC would benefit from economies of scale, and that after its initiation, further additional collections or expansions in existing collections would only add incremental costs. However, OhioLINK and the DRC found that costs increased in direct proportion to the increase in collections. The platform on which the DRC was mounted, D-Space, required significant maintenance and had limited capacity for easy modification at a time when OhioLINK's finances were under increasing pressure. In short, OhioLINK no longer had the money to support the project, and the member institutions were unwilling or unable to contribute to continuing costs. Accordingly, after a day-long stakeholder summit about the future of the DRC, the Library Advisory Council voted to dissolve the institutional DRC program and OhioLINK on March 8, 2013. Institutions were given a year to migrate their content into alternative platforms. To date, many institutions have chosen to implement multiple platforms depending on the content – platforms in use at institutions include bepress Digital

Commons, open source Omeka, OCLC's ContentDM, open source Fedora/Hydra, and locally supported open source DSpace installations.

The grant's activities begin in spring, 2012, with the conceptualization of how to implement the project. In July and August, Schocket, Evans, and project advisor John Millard held several discussions to consider the structure of the three workshops. After those discussions, as well as consultation with others, it was decided that each two-day workshop would be divided into four sessions. The first morning would consider the humanistic questions that scholars would want to ask of the data. The first afternoon would be dedicated to considering the relationships between those questions, the kinds of materials in the DRC collections relevant to those questions, and their related metadata. The second morning would move to more technical questions of the formats of the digitized (or born-digital) materials in the collections and the technological, analytical, and programming challenges in constructing desirable queries across collections in useful ways. The last session, on the second afternoon, would move to issues of interface: given the questions, the query results, and the format of that data as well as the source material, the workshop participants will consider possible interface features to be included in a scholar's dashboard.

Schocket, Evans, Millard, and others also considered the themes of the three workshops. The first two, as written into the grant, were space and time. Given the considerable analysis already dedicated to spatial and chronological analysis in the digital humanities, these were still considered to be appropriate with little modification. However, the initial theme of the third workshop, "identity," was somewhat reconsidered, because of the concern that it was too nebulous given the kinds of analyses likely to be done on the collections. Accordingly, the theme of that workshop was modified to consider the intersections of identity and social networks, thereby lending the workshop to the kinds of analysis more conducive to computer-assisted research.

Another decision concerned the technologists to be included. The original suggestion was for several software specialists familiar with the structure of the DRC. However, after discussion, the grant team decided that just as important was expertise in programming with the kinds of analysis likely to be included in a scholar's dashboard, such as GPS and TEI. These kinds of expertise will be considered, and the team has started to look for candidates who would be appropriate.

The grant proposal had emphasized that the main deliverable would be technical specifications for an interface and software to be installed on the DRC. However, it also outlined the workshops as "design-and-build," with the object of constructing tools or at least prototypes of tools during the workshops. After further discussion of the project team, and consultation with NEH program officer Perry Collins, the project team opted rather for the workshops to focus on the writing of technical specifications for a tool. The decision to do so was based upon two factors. First was that the programming and design work for a prospective tool or set of tools was beyond the scope of even three two-day workshops. Secondly, even the building of prototypes would require formidable skill and experience with design and programming, and so the participants in these workshops would have to have been people already deeply involved in digital humanities tools. However, the spirit of the grant was to consider not only the needs of those experienced with digital humanities tools but also, and indeed especially, those humanists who would be interested in using digitized and born-digital collections who have little or no such background. The team accordingly decided to focus on technical specifications that could then be implemented dependent upon further funding. The other modification of the deliverables, also discussed with Ms. Collins, was a change in the proposed videos, a change borne both of rethinking and of circumstances. The grant proposal called for three youtube videos, one with film footage from each workshop. On the morning of the first workshop, the videographer cancelled, citing, among other factors, not having gained access to a camera. That in turn prompted reconsideration of the videos, in terms of length and audience. For the second workshop, we did a video capture of the screen with accompanying audio, which we will also do for the third, after which we will compile videos for mounting, with highlights, as originally planned.

To help facilitate these workshops and to write the technical specifications document, the grant contracted with Axia Consulting. Axia has considerable experience facilitating exactly these kinds of exercises, aiding groups to consider information technology needs and solutions, and has done so for various kinds of clients, including commercial, non-profit, and state agencies. This decision has been justified several times over. Despite their initial lack of experience with the needs and resources of academics and libraries, the Axia consultants who have worked on the project (Eric Laus and Shawn Hopper) have more than proved their worth. Their knowledge of information technology systems and how people and organizations interact with them is extensive, and, in addition, their knowledge of the use of information technology in industry brings what had been a missing element in the initial proposal.

The grant was written under the assumption that the DRC would continue primarily as it had: a central repository to house the digital collections of OhioLINK institutions. However, over the past year, both OhioLINK and the participating institutions have found that model to be unsustainable. OhioLINK had hoped that an increase in the number of collections would result in economies of scale for maintenance and storage. However, costs turned out to be proportional. Furthermore, OhioLINK is under increasing financial pressure and would be unable to increase resources dedicated to the DRC. For their part, participating institutions remained wary of the DRC because of uncertainty over retention policies, difficulties with customization, and concerns over the long-term viability of its underlying platform, D-Space. In January (after most of the planning for the February Scholar's Dashboard workshop had already been completed), the DRC's advisory body opted to pursue a federated model rather than a centralized one. Accordingly, the focus of the workshops was shifted toward technical and functional specifications for software across multiple installations, rather than for one centralized location.

The Scholar's Dashboard has met its objectives as outlined in the grant proposal through the facilitation of the three proposed workshops. The first workshop was held on November 8 and 9, 2012. A total of 23 people attended. The agenda was conceived as a funnel, starting with a very open-sky dreaming session for what scholars would want, and getting more narrowed over the two days to consider particular features. These exercises were highly successful in allowing us to compile a list of desirable functionalities. While many of these were related to spatial analysis – the theme of the first workshop – many were applicable to any kind of use by humanists (for example, allowing users to have accounts with saved searches, and a recommendation engine for suggesting additional sources and objects). Respondents to our post-workshop evaluation survey were for the most part positive about the experience, but some wanted more of a hands-on experience with one or more tools.

Accordingly, for our second workshop, held on February 7-8, we invited Mark Tebeau of Cleveland State University to demonstrate Omeka, for which the OhioLINK programmers had installed a custom instance specifically for Scholars Dashboard participants. The theme of this workshop was “time.” Twenty-four people were present for the second workshop. Unlike the first workshop cohort, which included architecture scholars, a cultural geographer, and others primarily interested in space, the humanists for the second workshop were primarily historians. Many of the functionalities that these scholars suggested were similar to those in the first workshop. The participants greatly appreciated the exposure to Omeka which, because of previous work, its extensibility, its many plug-ins, and its potential inter-operability with Fedora, may offer much of what users want. However, many of the features that scholars had suggested in the first two workshops were ones with which they were familiar from commercial offerings, such as Google, Amazon, Pinterest, Historypin, and others.

As a consequence of the findings of the second workshop, planning for the third workshop resulted in conversations with representatives from Google, Amazon, and other commercial firms that offer analytics or interface elements that might be of interest to scholars. Held on May 9-10, the third workshop began with discussions around the workshop's theme, identity and social networks. For the first morning of the session, participants discussed not only current projects relating to these topics, such as the Republic of Letters and the African Slave Voyages Database, but also tools, such as NodeXL. The following sessions featured discussions with representatives of firms that use or adopt such services: Maven Wave, a contractor working with Google Cloud and Google Apps, and Cloudbnexus and 8kMiles, contractors working with Amazon Web Services. Although these software-as-a-services may initially appear more expensive than open-source software, they may not necessarily be most cost-intensive over the long run because they would require less on-site maintenance and expertise. Having a lower up-front cost for mostly pre-designed tools, and having very low rates for data storage and bandwidth, these software-as-a-service possibilities might actually prove more cost-effective for university libraries than developing their own software or having to modify open-source software significantly, continuing software and data retention maintenance costs, and hosting their data on their own equipment. The last session consisted of a discussion with Gwen Evans, concerning the possibilities and difficulties of sustainability given OhioLINK's resources, institutional resources, and the changing funding and technological environment.

## **Accomplishments**

Although the DRC has been dismantled, the project was a success in its development of a set of functional and technical requirements for online repositories.

The main deliverable of Scholar's Dashboard, a set of technical requirements for an interface for online collections, was drafted by Eric Laus of Axia based upon notes taken in the workshops and continuing follow-up conversations

with project personnel. The list of functional and technological requirements was further refined and revised by project personnel. This report is attached, and the technical requirements have been mounted on the Scholar's Dashboard website, distributed to all participants, and mounted online.

The report includes eleven functional categories: three general, eleven curation, six ingestion, ten metadata, three quality assurance, two reporting, eighteen search, seven security, five socialization, eight user interface, and twelve visualization requirements. It also includes fifteen technical requirements, for a total of 100 requirements. Given the difficulty of implementing many of these requirements, their varied nature, and that not every collection has artifacts amenable to the various kinds of searches and visualizations, no single project could meet all of these requirements. However, one of the additional considerations discussed multiple times was the necessity for modularity and extensibility: that to be robust and relatively future-proof, installations must have the capability for basic functionality with additional functionality added as resources permit. In addition, among the requirements was support for add-ons and for well documented API's, to allow for a user community also to increase functionality over time.

One notable but perhaps not surprising result of including many scholars savvy about technology but for the most part not digital humanities practitioners, as well as consultants knowledgeable with public and private sector practice, was the desire for functionalities already significantly developed by commercial firms.

They pointed out the difference in maturity and sophistication between technologies developed by and for digital humanists and those developed by commercial firms. Chief among these were personalized recommendation engines, such as those used by Amazon.com or Netflix, to suggest materials to users based both upon their own history in a repository and those of others who have accessed the same or similar resources in the same depository. They also admired the kind of sophisticated statistical visualizations available to large-scale corporate and government enterprise systems. The question then becomes, to what extent can digital humanists develop these kinds of tools with miniscule resources compared to the tens of millions of dollars invested by commercial firms.

Similarly, especially in light of the dissolution of the DRC, whose development, hosting, and maintenance costs had rendered the program unsustainable, participants were interested in private-sector software-as-a-service and hosting models. Rather than relying on open-source software that often requires modification and the further development for which is often abandoned, humanities scholars and librarians alike saw potential value in contracting with commercial firms to subscribe to software. Librarians and technologists also cataloged the difficulties of maintaining server space for colleges and universities, especially smaller ones, in terms of cost, expertise, and especially data back-up and retention. After talking in our third session to contractors who work with Google and Amazon to provide online data services, the entire group was impressed by the capabilities both in terms of data visualizations and data access and retention. These can be provided at lower overall cost to institutions compared to adapting and maintaining their own repositories. There are some digital humanities projects that already use such services, like Zotero's reliance on Amazon Web Services for storage, and many institutions that use BePress, a commercial entity, to host their digital institutional repositories. We may see more use of commercial services for digital humanities support in the future.

As the above passages suggest, the conversations highlighted that among the greatest challenges to the long-term sustainability of digital repositories, especially ones that span multiple institutions, are not technological but rather financial and administrative. For a centralized model to work, the coordinating institution must have significant resources in terms of personnel (and possibly physical infrastructure). For a distributed model to work, the various institutions must have a way to share human resources and to coordinate the project. In either case, the institutions must develop a model for contributing resources either in cash or in kind, while not charging end users directly. These difficulties have been particularly acute in recent years, with cutbacks to library budgets and human resources at the same time that subscription fees for various commercial databases and journals has increased. Without significant investment on the part of host institutions, or some other long-term, stable revenue stream, multi-institutional repositories will continue to be extremely difficult to implement and manage over the long term.

## **Audiences and Publicity**

The Scholar's Dashboard was publicized in a variety of ways. To attract participants to the workshops, which were limited to practitioners in Ohio, announcements for each workshop were publicized through H-Net. They were also sent through the OhioLINK Digital Resources Management Committee to be distributed to college and university library personnel at OhioLINK institutions, and sent informally to networks of humanities scholars in Ohio, for example, the Hueston Woods group, an informal organization of the history departments of public universities in Ohio. The project established a website ([www.scholarsdashboard.org](http://www.scholarsdashboard.org)) and was featured in BGSU's Zoom news. The full list of functional and technical requirements generated by the workshop has been distributed to all workshop participants, as well as to OhioDIG, the consortium of Ohio institutions now sharing best practices and resources regarding online repositories, and is posted on the project website. It will also be presented in the poster session at the 2014 Digital Humanities Summer Institute Colloquium.

The project's audience was primarily the librarians and archivists specifically working on the DRC, over fifty professionals at over twenty institutions in Ohio, with the broader audience of current and future users of the DRC as well as all OhioLINK members considering participating in the DRC. At the time, there were 26 participating member institutions, with a waiting list of over a dozen.

## **Evaluation**

No formal evaluation activities were built into the grant as originally conceived. However, after each of the first two workshops, participants were surveyed through an online instrument to consider improvements and changes for the subsequent workshop. Respondents to the evaluation of the first workshop noted that workshop objectives were by and large clearly communicated, but urged for more hands-on consideration of particularly technologies and more participation from the OhioLINK technologists. In part, the technologists' reticence was at the suggestion of the Axia consultants, who feared that too much of a focus on specific technological constraints would dampen more broader ranging discussion. It was largely in response to the desire for work with a potentially useful technology to consider its possibilities and limits that Mark Tebeau was invited to demo Omeka for the second workshop. Responses to the second workshop indicated that its activities were much more closely aligned with participants' expectations. For the third workshop, project personnel made sure to have shorter sessions in response to informal feedback from some of the participants of the first two workshops.

## **Continuation of the Project**

The DRC's dissolution disrupted original hopes for Scholar's Dashboard to be implemented on a broad scale. However, the results of the project will be used in a variety of ways by the Ohio library and archival community. OhioLINK still hosts some remnants of the DRC, among them a significant collection of e-books, for which it is following some of the technical requirements especially in terms of preservation as a set of principles. In addition, OhioLINK is looking closely at the possibility of serving as a DPLA hub for member institutions, and it is under discussion during the current strategic planning process. Should those discussions lead to implementation, the Scholar's Dashboard specifications will be among the resources providing a template for development.

OhioDIG, the Ohio digitization interest group for archivists, librarians, and others interested in cultural heritage materials that is in some ways the successor to the DRC now that institutions are curating collections locally, will be distributing the Scholar's Dashboard guidelines to its members for their consideration as they implement their own digital repositories. Furthermore, Andy Schocket will be participating in OhioDIG's November, 2014 gathering to discuss user needs and the Scholar's Dashboard's functional requirements for future projects.

## **Long Term Impact**

The Scholar's Dashboard has potential long-term impact in several ways. Although the project will not directly lead to additional support or activities directly relating to the workshops or to the DRC, it will have a continued life with both OhioLINK and OhioDIG. For the former, continued activities with its remaining collections for future federated digital repositories will rely on the Scholar's Dashboard technical and functional requirements, as well as the Scholar's Dashboard model of bringing together not only archivists and librarians, but also, crucially, scholars from a range of disciplines to ensure that functionalities reflect what how users would like to interact with OhioLINK repositories. In addition, it provides further insight for OhioLINK as it considers future functionalities for its existing collections or additional installations that it might implement.

Similarly, the Scholar's Dashboard will have a long life with OhioDIG, as a guide for member institutions as they add functionality to current repositories or develop new repositories. Before the DRC's dissolution, liaisons reported robust usage statistics per installation, especially for collections with national or international interest, such as the Wright Brothers Collection at the Wright State University Libraries (now housed locally at CoreScholar, the campus repository Digital Commons bepress platform); the combined viewership of the distributed collections can only grow with time.

### **Grant Products**

The main grant product was the list of technical and functional requirements for federated institutional repositories. The list is posted on the project's website, [www.scholarsdashboard.org](http://www.scholarsdashboard.org), along with a poster presented at the Digital Humanities Summer Institute and Axia's final report. The project will continue to maintain its website, and project personnel will work through OhioLINK and OhioDIG institutions.



## **Appendices**

Flyer – call for participants

Screenshots of H-Net solicitations for scholar-participants

BGSU Zoom News piece on Scholar's Dashboard

Scholar's Dashboard website screenshots

Participant evaluations from workshops 1 and 2

Axia final report, including list of participants and draft list of technical and functional requirements

Scholar's Dashboard Technical and Functional Requirements

Poster for 2014 Digital Humanities Summer Institute Colloquium

**Appendix 1:**  
**Flyer – Call for Participants**



# OhioLINK

## **Scholar's Dashboard: Creating a Multidisciplinary Tool Via "Design and Build" Workshops Call for Librarians/Archivists & Humanities Scholars in Ohio**

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**The Scholar's Dashboard project is a series of three two-day "design and build" workshops, teaming humanities scholars, librarians and technologists in innovative application development to optimize use of humanities collections from the OhioLINK Digital Resource Commons (DRC).**

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The DRC is a 500,000+ item open access collection from Ohio academic and cultural heritage organizations. Dashboard users will select and combine collections, add descriptions and metadata, and re-visualize and re-present information. DRC collections with relevant information (oral histories, narratives, records, documents, images, e.g.) will form the design base.

"Design and build" workshops allow researchers and scholars to specify features needed to rapidly expand DRC functionality. This model will then be used as a magnet for further digital humanities collections, as scholars, librarians, and archivists contribute collections in order to benefit from the Scholar's Dashboard design and capabilities.

Each workshop will address a particular theme, and consist of ten pairs of people: a humanities scholar and a librarian or archivist from ten different OhioLINK institutions with relevant collections that are either already in the DRC or which are candidates for inclusion. In order to ensure broad participation and a range of ideas, we hope to have a different set of people for each of the workshops.

We're not looking only for experts, or only people who have extensive experience in the digital humanities. We're also looking for people who are curious and willing to talk through the challenges that we face in making Ohio's digital resources accessible and useful to humanities scholars.

### **Workshop 1: Space.**

How can we best analyze and visualize the spatial distribution and dimensions of the artifacts in our collections, of their creators, and their content? November 8 and 9, 2012.

*(Please respond by Oct. 10)*

### **Workshop 2: Time.**

How can we best analyze and visualize the chronological distribution and dimensions of the artifacts in our collections, of their creators, and their content? February 7 and 8, 2013.

*(Please respond by Jan. 2)*

### **Workshop 3: Identity and community networks.**

How can we best analyze and visualize the ways that artifacts, their creators, and their content were or are socially and culturally embedded? April 4 and 5, 2013.

*(Please respond by March 1)*

All workshops will be held at Ohio Supercomputer Center's BALE Conference Room and Theater. Participants will be provided with a parking pass and a \$100 travel reimbursement.

To participate in the workshops, please send the following information to Andy Schocket, project manager, at [aschock@bgsu.edu](mailto:aschock@bgsu.edu): names and CVs of the pair of participants, and a brief statement of interest, including the relevant DRC collection. Should there be more applicants than is availability, applicants will be chosen so as to provide a range of interests and experience. Please also direct any questions to Andy Schocket.

The Scholar's Dashboard is funded through a grant from the Office of Digital Humanities of the National Endowment for the Humanities. Any views, findings, conclusions, or recommendations expressed as a result of this workshop do not necessarily reflect those of the National Endowment for the Humanities.



## **Contact**

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## **OhioLINK**

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# OhioLINK

## Scholar's Dashboard: Creating a Multidisciplinary Tool Via "Design and Build" Workshops

Call for Librarians/Archivists & Humanities Scholars in Ohio

The Scholar's Dashboard project is a series of three two-day "design and build" workshops, teaming humanities scholars, librarians and technologists in innovative application development to optimize use of humanities collections from the OhioLINK Digital Resource Commons (DRC).

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"Design and build" workshops allow researchers and scholars to specify features needed to rapidly expand DRC functionality. This model will then be used as a magnet for further collections, as scholars, librarians, and archivists contribute collections in order to benefit from the Scholar's Dashboard design and capabilities.

Each workshop will consist of ten pairs of people: a humanities scholar and a librarian or archivist from ten different OhioLINK institutions with relevant collections either already in the DRC or which are candidates for inclusion. For widest participation and a range of ideas, we hope to have different people for each workshop.

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**Appendix 2:**  
**Screenshots of H-Net solicitations for scholar-participants**

**Scholar's Dashboard: Digital Humanities Workshop in Ohio, April 4-5****Location:** [Ohio](#), [United States](#)**Workshop Date:** 2013-03-15 ([Archive](#))**Date Submitted:** 2013-02-18**Announcement ID:** 201515

The Scholar's **Dashboard** project is a series of workshops teaming humanities scholars, librarians, and technologists in discussions to consider major challenges in the digital humanities: how can we best work across multiple digitized or born-digital collections? What tools, interface, and features would best help humanists explore digital collections? Our theme for the April 4 and 5, 2013 workshop is "identity and social networks." How can we best analyze and visualize the chronological distribution and dimensions of the objects in our collections, of their creators, and their content?

We're looking not only for humanists and librarians who have extensive experience in the digital humanities, but also for those curious and willing to talk through the challenges that we face in making Ohio's digital resources accessible and useful to humanities scholars of all levels of expertise.

This workshop will be held at Ohio Supercomputer Center's Bale Conference Room and Theater on April 4 and 5. Participants will be provided with a parking pass and up to \$100 in travel reimbursement. Participants must be either Ohio residents or be affiliated with an Ohio college, university, or library.

To participate, please send the following information to Andy Schocket, project manager, at [aschock@bgsu.edu](mailto:aschock@bgsu.edu): name, C.V., and a brief statement of interest by March 15. Should there be more applicants than is availability, applicants will be chosen so as to provide a range of interests and experience. Please also direct any questions to Andy Schocket.

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**Scholar's Dashboard: Digital Humanities Workshop in Ohio, Feb.7-8 2013****Location:** [Ohio](#), [United States](#)**Workshop Date:** 2013-02-07 ([Archive](#))**Date Submitted:** 2012-12-11**Announcement ID:** 199475

The Scholar's **Dashboard** project is a series of workshops teaming humanities scholars, librarians, and technologists in discussions to consider major challenges in the digital humanities: how can we best work across multiple digitized or born-digital collections? What tools, interface, and features would best help humanists explore digital collections? Our theme for the February 7 and 8, 2013 workshop is "time." How can we best analyze and visualize the chronological distribution and dimensions of the objects in our collections, of their creators, and their content?

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**Scholar's Dashboard: Digital Humanities Workshop****Location:** [Ohio, United States](#)**Workshop Date:** 2013-05-19 ([Archive](#))**Date Submitted:** 2013-03-26**Announcement ID:** 202562

The Scholar's **Dashboard** project is a series of workshops teaming humanities scholars, librarians, and technologists in discussions to consider major challenges in the digital humanities: how can we best work across multiple digitized or born-digital collections? What tools, interface, and features would best help humanists explore digital collections?

Our theme for the May 9 and 10, 2013 workshop is "identity and social networks." How can we best analyze and visualize the social dimensions of the objects in our collections, of their creators, and their content?

We're not looking only for humanists and librarians who have extensive experience in the digital humanities, but also for those curious and willing to talk through the challenges that we face in making Ohio's digital resources accessible and useful to humanities scholars.

In a previous workshop, we had a hands-on experience with Omeka. For this workshop, we will have representatives from firms working with Google, Amazon, others to see what products they might be able to present that might serve the needs of scholars, libraries and archives, and the general public. Industry partnerships have already resulted in such cooperative efforts as Google's support of Paper Machines and Amazon's support of the 1000 Genomes project.

This workshop will be held at Ohio Supercomputer Center's Bale Conference Room and Theater on April 9 and 10. Participants will be provided with a parking pass and up to \$100 in travel reimbursement. Participants must be either Ohio residents or be affiliated with an Ohio college, university, or library.

To participate, please send the following information to Andy Schocket, project manager, at [aschock@bgsu.edu](mailto:aschock@bgsu.edu): name, C.V., and a brief statement of interest. Should there be more applicants than is availability, applicants will be chosen so as to provide a range of interests and experience. Please also direct any questions to Andy Schocket.

The Scholar's **Dashboard** is funded through a grant from the Office of Digital Humanities of the National Endowment for the Humanities. Any views, findings, conclusions, or recommendations expressed as a result of this workshop do not necessarily reflect those of the National Endowment for the Humanities.

Andy Schocket  
American Culture Studies  
Bowling Green State University  
Bowling Green, OH 43402  
Phone: (419) 372-8197

Email: [aschock@bgsu.edu](mailto:aschock@bgsu.edu)

Visit the website at <http://scholarsdashboard.org>

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**Appendix 3:**  
**BGSU Zoom News piece on Scholar's Dashboard**

View: [Current Issue](#) | [Past Issues](#)

Thursday, November 8, 2012

**BGSU.**

# Zoom news

BOWLING GREEN STATE UNIVERSITY NEWS UPDATE

## Navigating the humanities with the Scholar's Dashboard



Comparing photos from the Great Lakes Collection in the University Archives with their digital images are Nicki Reamer (left) and Andrew Schocket.

From the Wright brothers' papers and drawings to issues of the popular "nickel weeklies" from the mid-1860s, a wealth of fascinating historical material exists in Ohio's library collections. Much of it, including these two collections, has been digitized and is available online to the public. In addition, the amount of information that is "born digital," such as podcasts and archives of theses and dissertations, continues to grow.

With support from a \$50,000 grant from the National Endowment for the Humanities (NEH), BGSU is helping to create a Scholar's Dashboard that will enable easier searching within and across these collections and deliver results and visualizations that best serve humanities scholars. The "tools" will be available through the OhioLINK **Digital**

## BGSU. in the news

**Toledo Symphony plays student composers work**

– [Sentinel-Tribune](#)

**Political Science faculty discuss election**

– [13abc](#)

**Are baby boomers still pushing up the divorce rate?**

– [The Huffington Post](#)

## A musical moment



Graduate composition major Evan Williams (left) enjoys a bit of wisdom from William McGlaughlin — composer, conductor, musician and radio personality — during a reading session of student composers' works Nov. 7. McGlaughlin is on campus as the guest artist of the Dorothy E. and DuWayne H. Hansen Series. The Hansens also attended the workshop, at

**Resource Commons** (DRC), a federated collection of digital objects of all kinds that provides an infrastructure for participating libraries, cultural institutions and municipalities.

"The challenge is that there are a lot of great collections coming online, but they may all use different interfaces and search engines," said Dr. Andrew Schocket, director of the American Culture Studies Program and project manager for the NEH grant. "This digital startup grant will help us determine what kind of tool and interface scholars want and what we need in terms of software and funding to create that."

The funds are being used to host three "design and build" workshops, each bringing together humanities researchers, librarians and software developers from across the state to create applications that will make it easier to combine historical collections in new ways. The first session is going on today and tomorrow (Nov. 8 and 9) at the Ohio Supercomputing Center in Columbus, followed by sessions in February and April.

Schocket hopes the eventual tool set can serve as a model for other institutions and consortia. BGSU graduate student Nicki Reamer, American culture studies, will help publicize the Scholar's Dashboard through social media and maintaining a Web presence.

Gwen Evans, now interim executive director of OhioLINK and former BGSU coordinator of library information and emerging technologies, co-wrote the grant in conjunction with others from the OhioLINK community before moving to OhioLINK last summer. The University Libraries was one of the earliest participants in the Digital Resource Commons.

"This is an exciting opportunity to get humanities scholars directly involved in designing tools to access the digital collections in the DRC in ways that they, the end users, find most compelling and useful," said Evans. "What do humanities faculty and researchers want in digital format, and what tools do they need to use them effectively in their work and in the classroom?"

The new digital technology has opened up the potential for humanities scholars, along with other scientists, to examine and analyze data and other information in new ways, Schocket said. In 2006 the NEH began the Digital Humanities Initiative, renamed the **Office of Digital Humanities** in 2008.

A number of BGSU faculty in various disciplines are involved in data-intensive research; at the

which McGlaughlin spoke with the four students whose compositions had been performed on campus the previous day by the Toledo Symphony Orchestra and recorded.

## United Way/Northwest Ohio Community Shares update

The 2012 United Way/Northwest Ohio Community Shares campaign continues, and the University community is responding generously, reports Sara Bushong, 2012 United Way Committee Chair. To date, \$66,602 has been donated — more than halfway toward the \$101,000 goal.

In addition, the Penny Wars continue to rage across campus. All money collected will go toward United Way. Look for jars in offices and make your change count.

BGSU students from the Chapman Community at Kohl Hall set an example of helping others earlier this semester when they volunteered at Crim Elementary School during the **United Way Week of Caring**.

To pledge your support for those in our community, visit **BG Charity**.

## Zoom holiday schedule

Due to the Veterans Day holiday next Monday, the next edition of Zoom News will be published Nov. 15.

## Winter Wheat festival to feature award-winning alumnus

Aspiring writers attending next week's Winter Wheat festival are sure to be inspired by meeting Creative Writing Program alumnus Alan Heathcock, who has recently won a prestigious **Whiting Writer's Award** in fiction. Read more In Brief.

Big Data Day symposium earlier this fall they made connections with one another for possible collaborations.

In addition, this summer, Drs. Jolie Sheffer and Ellen Berry will host an international digital humanities workshop on campus. Watch Zoom News for more information on that.

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» **Job Postings**

» **Obituary**

» **In Brief**

Zoom News is provided as a service to BGSU faculty and staff.

**Appendix 4:**  
**Scholar's Dashboard website screenshots**

# SCHOLAR'S DASHBOARD

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## Contact us

Questions, comments or concerns? Feel free to contact us using one of the methods below:

E-mail: [aschock at bgsu dot edu](mailto:aschock@bgsu.edu)



Follow Us on Twitter: [@ScholarsDB](https://twitter.com/ScholarsDB)

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# SCHOLAR'S DASHBOARD

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## Welcome

The Scholars' Dashboard project was a series of three two-day workshops, teaming humanities scholars, librarians, and technologists in innovative application development to optimize use of humanities collections from the OhioLINK Digital Resource Commons (DRC). The DRC was a 500,000 item open access collection from Ohio academic and cultural heritage organizations. Workshops allowed researchers and scholars to specify features needed to rapidly expand DRC functionality. This model will then be used as a magnet for further digital humanities collections, as scholars, librarians, and archivists contribute collections in order to benefit from the Scholars' Dashboard design and capabilities.

The workshop produced technical requirements for a Scholar's Dashboard. These should be considered for any online digital humanities repository.

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# SCHOLAR'S DASHBOARD

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## Partners

Thank you to all those involved with the Scholar's Dashboard project:



The Scholar's Dashboard has been made possible in part by a grant from the National Endowment for the Humanities: Exploring the human endeavor ([www.neh.gov](http://www.neh.gov)).

*Any views, findings, conclusions, or recommendations expressed in this Web resource do not necessarily represent those of the National Endowment for the Humanities.*



The OhioLINK Digital Resource Commons (<http://drc.ohiolink.edu/>).

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The Ohio Supercomputer Center (<https://www.osc.edu/>).

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Wright State University (<http://www.wright.edu/>).

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Bowling Green State University (<http://www.bgsu.edu/departments/acs/>).

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AXIA Consulting (<http://axiaconsulting.net/>).

# SCHOLAR'S DASHBOARD

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## People

Get to know some of the people behind the scenes with the Scholar's Dashboard project:



### **Gwen Evans (Project Director)**

Gwen Evans is the Director of Special Projects at the Ohio Technology Consortium. Previously she was an Associate Professor and the Coordinator of Library Information and Emerging Technologies at the University Libraries, Bowling Green State University. She received her M.S. in Library and Information Science from the University of Illinois, Urbana--Champaign and has an M.A. in Cultural Anthropology from the University of Chicago. Her experience includes two years on the island of Flores in Indonesia doing fieldwork on local and global mission Catholicism, as well as advanced training in Indonesian language. She was a recipient of a Fulbright Dissertation Fellowship and Social Science Research Council/American Council of Learned Societies Dissertation Fellowship. Current research interests are in user behavior in digital environments, non--textual discovery and access methods in the library, and emerging technologies in information seeking. She is past Chair of the OhioLINK Digital Resource Management Committee, the statewide committee which advises on the development of the OhioLINK Digital Resource Commons, the statewide academic multi-institutional repository.

### **Andrew M. Schocket (Project Manager)**

Andrew Schocket is the current Director of the American Culture Studies program at Bowling Green State University, and holds a joint appointment with the BGSU American Culture Studies program and is affiliated with the BGSU



Africana Studies Program. He has won fellowships from such institutions at Library Company of Philadelphia, the Huntington Library, the Hagley Museum and Library, the International Council for Canadian Studies, and the BGSU Institute for the Study of Culture and Society. His publications include the monograph *Founding Corporate Power in Early National Philadelphia* (Northern Illinois University Press, 2007), which won the 2008 Ohio Academy of History Publication Award, as well as various essays in peer-reviewed journals.



#### **John Millard (Project Advisor)**

John Millard is the Head of the Center for Digital Scholarship for the Miami University Libraries. He received his M.S. in Library and Information Science from the University of Illinois in Urbana-Champaign. At Miami, John provides leadership to a team of librarians and staff with expertise in web application programming, digital libraries, database design, interface development, metadata, digital imaging, and rights management to develop freely available digital collections based on the Libraries' unique resources. The mission of the Center for Digital Scholarship is to provide Miami scholars with the facilities, services, and expertise to support the creation and use of digital scholarship in all its forms. John has lead successful grant projects with funding from NASA, the U.S. Geological Survey, and the State Library of Ohio and has served as a reviewer for the Institute for Museum and Library Services National Leadership Grant program.



#### **Nicki Reamer**

Nicki Reamer is a doctoral student and graduate assistant in the American Culture Studies Program at Bowling Green State University. She received her M.A. in Communication Studies from Kent State University. Her research interests include most things mediated with a particular emphasis on feminist perspectives of popular television, video games and gaming culture, and online interactive spaces, as well as the many ways in which audiences/viewers/fans/users interact with these media to build and maintain culture, community, and identity.

# SCHOLAR'S DASHBOARD

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## Results

After our workshops, we compiled a list of functional and technical requirements for digital humanities online repositories. These are wish lists: no current site has all of these, but some have many. Rather, it is a set of requirements that humanists, librarians and archivists, and technologists generated for an ideal interface for scholars.

## SD Functional and Technical Requirements

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**Appendix 5:**  
**Survey Results – Workshop 1 – Space**  
**8 respondents**

<b>Question</b>	<b>Strongly Agree</b>	<b>Agree</b>	<b>Undecided</b>	<b>Disagree</b>	<b>Strongly Disagree</b>
Workshop objectives were clearly communicated	0	6	1	1	0
Facilitator(s) were knowledgeable in the subject area	3	3	1	1	0
Topics for Workshop Sessions were appropriate	2	5	1	0	0
Session discussions were appropriate and helpful	2	2	2	1	1
Sufficient time was devoted to session discussions	3	5	0	0	0
The Workshop was appropriate in length	3	3	0	2	0
The location of the workshop was satisfactory	5	3	0	0	0
Participants were the correct audience for this workshop	2	2	3	0	1
There were sufficient number of Workshop participants	3	4	1	0	0
Overall, were your expectations met?	0	4	2	1	1
Overall, were the workshop objectives met?	0	5	2	1	0
Would you like to participate in the next workshop?	2	3	1	2	0

For any of the rated items above, please comment as you see fit.

- Respondent 1: Since the focus was on the DRC, it would have been helpful to include a practical session to demonstrate how to add a geospatial element to the collections, and to get an idea of what level of support such enhancements would get from OhioLINK since not all universities have the same level of support to accomplish what the models have demonstrated.
- Respondent 2: I think the organizers had their expectations met in terms of receiving ideas from participants, but the workshop was of little value for me and my work setting. Some of the sessions were poorly conceived, and too unstructured. Discussion stayed at a very elementary level for the most part, as some academic participants had little exposure to current digital practices and tools. Some issues discussed at length had been solved 20 years ago by the Visual Resources Association or other organizations whose findings have been published for a long time.
- Respondent 5: Not quite certain what the ultimate outcome will be.

- Respondent 6: My facilitator rating is based on the focus of their knowledge base. I do see the advantage to having someone who understands the business arena lead these discussions and add a different point of view. However, there were several times when terminology used or comments made showed a complete lack of understanding of the academic sphere. The facilitators did not appear to have any understanding of current library standards or digital humanities, either, which would have saved us some time reconciling terminology.

What did you like most about the workshop?

- Respondent 1: the breadth of discussions, models,
- Respondent 2: Mix of people, particularly those who are teaching.
- Respondent 4: I found it useful to learn about the current state of the DRC and hear from the IT team the challenges involved in moving forward. I enjoyed learning about what features humanists would like to see in a tool that would help them share their work with other researchers and students.
- Respondent 5: Broad scope, multiple perspectives from multiple disciplines.
- Respondent 6: I found the discussion extremely useful, and was very glad for the variety of backgrounds represented in the room.

What, if any, improvements would you suggest?

- Respondent 1: adding a practical session (metadata, interface) since that is why librarians engaged in DRC projects participate. Ask the DRC Team to create a space for experimentation.
- Respondent 2: Too many computer people were there who contributed little, and seemed to be there just to listen. Some specific digital humanities projects could have been presented and analyzed by the group to spark ideas on what works or doesn't, or what we would like to see. Discussion so abstract that the possibilities weren't apparent to those with little experience. Given the lack of strong structure I felt the workshop was too long. Also the lunch food was appalling, and we did not have a break to refresh us. There was no opportunity buy better food. If you're going to keep people working through lunch, provide better food, please.
- Respondent 3: A detailed description for all on the end deliverable of this grant would be helpful. It remains vague to me. It appears very open-ended. I'm not sure what functional requirements were even ever decided upon after the first topic (Space).
- Respondent 4: More input from the IT people involved in the workshop during the sessions rather than just at the end!
- Respondent 6: I think it's possible that some of the participants didn't understand that the focus of the workshop was not necessarily for us to learn something (though personally, I did) but to gather information on what components would be ideal for the perfect tool. It might help increase productivity if this was re-iterated for the next session

**Appendix 6:**  
**Survey Results – Workshop 2 – Time**  
**7 Respondents**

Question	Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
Workshop objectives were clearly communicated	2	4	1	0	0
Facilitator(s) were knowledgeable in the subject area	4	2	1	0	0
Topics for Workshop Sessions were appropriate	1	5	0	0	1
Session discussions were appropriate and helpful	3	3	0	1	0
Sufficient time was devoted to session discussions	1	3	1	1	1
The Workshop was appropriate in length	2	3	1	1	0
The location of the workshop was satisfactory	3	3	1	0	0
Participants were the correct audience for this workshop	3	3	1	0	0
There were sufficient number of Workshop participants	3	4	0	0	0
Overall, were your expectations met?	2	3	0	1	1
Overall, were the workshop objectives met?	2	3	1	1	0
Would you like to participate in the next workshop?	4	1	2	0	0

For any of the rated items above, please comment as you see fit.

- Respondent 2: I wish there were more coverage on tools to construct timelines.
- Respondent 5:
  - The room with the oval table was too crowded and hot--not a pleasant atmosphere. Day 2 would have been better served to spend the whole day in the theater-seating room.
  - For the first time ever I'm going to complain about a free lunch--so that you have the opportunity to change it for the next time. 1. large messy onion covered sandwiches are not appropriate for a working box lunch at close quarters. I'm not alone in this--many of the other attendees made comments. 2. the vegetarian selection was severely lacking--iceberg lettuce on a big bun. 3. the cardinal rule of 2-day workshops is to get a different caterer/menu the 2nd day. I have had at that facility at another 2-day workshop that served sandwich box lunches--Jimmy John's one day and university catering the other all and people were happy.
  - Introductions: simply going around and stating ones name and institution is not enough. People should be instructed to say what other groups they are involved in,



what sort of projects they are working on, etc. How can you network if you don't know these things?

- The distance lecture at the end of day 1 was pretty useless. Sharing an undersized desktop for show and tell just doesn't work.
- Equipment: tell people to come early to get set up. Tell people that iPads may not be function with the various software.
- Summarize at the end of the day, or after sections. What were the important points and/or concepts? Share a report/notes. There was an awful lot of formless wandering talking. It didn't seem like anything tangible came from it.
- Don't run over on a Friday afternoon--many people have to leave and will have to leave mid-discussion.
- Respondent 7: For the question: "participants were the correct audience for this workshop" ... I think a few more "scholars/faculty" would have been better. As for the next workshop, I'll wait to see the details for it and decide if I can go.

What did you like most about the workshop?

- Respondent 1: The ability to communicate with humanities scholars about their needs and wants.
- Respondent 2: The hands-on exercise with Omeka was definitely making this workshop worthwhile. Mark Tebeau is very knowledgeable
- Respondent 3: It was interesting to hear from others creating, curating, and using digital collections and the challenges faced and functionality desired. I also appreciated Mark Tebeau's examples of what worked and what didn't in his experience and the hands-on portion with Omeka.
- Respondent 4: The chance to meet with librarians, archivists, and scholars from around the state. The discussion moving from general theory to practical applications were also insightful.
- Respondent 5: Getting to meet other people from around the state, especially the historians. Being able to participate in such an endeavor. Glad that someone in Ohio put it together.
- Respondent 7: The 2nd day, having a faculty demonstrate "real" DH projects was very important.

What, if any, improvements would you suggest?

- Respondent 3: Breaking up into smaller teams and brainstorming ideas to summarize to the larger group might be an interesting activity as we get closer to compiling a blueprint for the Scholar's Dashboard toolkit.
- Respondent 5: See above comments
- Respondent 7:
  - Bring some more faculty
  - On the first day, perhaps breaking into small group discussions can help get a more diverse/rich participation
  - Offer a separate food menu for each day

**Appendix 7**  
**AXIA Consulting Final Report**



## **Scholars Dashboard: Final Report**

AXIA Consulting

Eric Laus, Shawn Hopper

June 18, 2013

## Executive Summary

In March 2012, The National Endowment for the Humanities awarded a \$50,000 Start-Up Grant to OhioLINK, to support development of a multidisciplinary tool called the Scholar's Dashboard.

This Final Report represents a compilation of the information gathered during the course of three workshops. Though the objectives of the workshops diverged from the grant's original intent due to organizational and budgetary changes within OhioLINK, the material information still serves the spirit of the grant - which is to bring together the stakeholder groups of librarians, archivists, and scholars and explore ways to optimize the use of digital collections in the Humanities for OhioLINK.

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## Project Description

In March 2012, The National Endowment for the Humanities awarded a \$50,000 Start-Up Grant to OhioLINK, to support development of a multidisciplinary tool called the Scholar's Dashboard. Through a series of three (3) two-day workshops, collaborative teams of humanities scholars, librarians, archivists, and technologists were to initiate a "design and build" software development effort, resulting in a set of processes and tool(s) that would optimize the use of humanities collections from the OhioLINK Digital Resource Commons (DRC).

The DRC is a 500,000 item open access collection from various Ohio academic and cultural heritage organizations.

## Objectives and Scope

While the original grant was funded on the premise that collaborative teams would develop prototype software for immediate application against DRC collections, two events necessitated a change to the objectives and scope of the workshops.

- In January 2013, OhioLINK announced that the DRC would be decommissioned by December 31, 2013 due to funding cuts. Member institutions were required to immediately migrate their DRC collections to locally supported server environments.
- In April 2013, the Digital Public Library of America (DPLA) launched its website. Like the proposed Scholar's Dashboard, DPLA gathers together digital collections from partner institutions. The DPLA aggregates the metadata for these items and points users to the digital copies available at the partners' websites. As more and more institutions join the DPLA, it will be the universal place to search for open digital resources.

The Scholar's Dashboard workshops were "re-purposed" to focus on gathering high level functional requirements for a potential system alternative to the DRC, discuss what would/should be the proper, on-going role for OhioLINK, and identifying possible organizational strategies that would continue to support member institutions and promote technology for the Humanities.

## Key Project Participants

Project Director: Gwen Evans; Executive Director, OhioLINK

Project Manager: Andrew Schocket; Director of American Culture Studies, BGSU

Project Advisor: John Millard; Head of Center for Digital Scholarship, Miami University Libraries

Technical Advisor: Jim Jacob; Director of Infrastructure Systems, OARnet

Consultants: Eric Laus and Shawn Hopper, AXIA Consulting

## Workshop Schedule

Workshop	Date	Theme
1	November 8 and 9, 2012	<b>Space</b> ; demonstrate how geographic characteristics of cultural heritage objects are reproduced across collections regardless of their artificial aggregation into collections and categories.
2	February 7 and 8, 2013	<b>Time</b> ; investigate how digital artifacts maintain common core properties even as they differ superficially in different historical contexts.
3	May 9 and 10, 2013	<b>Identity</b> ; trace genealogy, social networks, gender roles, and other human attributes through related digital content.

Appendix A shows a list of all workshop attendees.

Appendix B is a compilation of the gathered functional requirements from all three workshops. The discussion around the various themes elicited the following notable functional characteristics.

The system must:

- Enforce and manage preservation requirements.
- Facilitate rights management, adhere to restrictions set forth by the collection source
- Facilitate verification of authenticity.
- Provide a powerful, flexible, intelligent search engine that provides a single interface for what could be disparate repositories.
- Provide innovative visualization techniques - Adopting from techniques from the websites and tools identified in Appendix C (e.g. IBM's Many Eyes project).

- Utilize a hybrid data model for metadata management - A hybrid approach leverages the strengths and mitigates the weaknesses of distributed and centralized architectures for real-time access and consistency of definitions.
- Allow for multiple "layers" of metadata - Allows an organizational layer for librarians and archivists that would ensure organizational consistency, help resolve ambiguity, and define lineage of the artifact. Other layers could be open to the use of students, scholars and researchers for a social network context.
- Support Crowdsourcing - In an educational environment, to allow collaboration and engagement between classroom students, or between scholars/researchers.
- Employ Role level access - Role level access is a best practice that allows precise control over system permissions based on the profile and capabilities of the user.
- Provide strong and easy capabilities for ingestion of new artifacts and used in collections
- Support functionality for the classroom.
- Provide strong data exchange capabilities - reporting, import/export capabilities.

A complete list of gathered functional requirements is listed in Appendix B.

The primary benefits of such a system were summarized as:

- Humanists will have a stronger ability to interpret data.
- The system is for both problem solving and problem seeking, and allows for serendipity to inform either.
- The quality of analyses and search results will improve over time in accordance with the addition of collections and the accretion of user-related data.
- The proposed system will improve asset management (e.g., by providing clarity around Right-to-Use policies).
- The system will be a platform for providing expanded use of assets (e.g., use within a classroom).

For Workshop #3, premiere development partners from Google (Maven Wave) and Amazon (Cloudfnexus and 8kMiles) demonstrated infrastructure and tools capabilities within the respective products and environments. Both Google and Amazon validated the notion that:

- Infrastructure environments exist today that can immediately support storage and cloud computing requirements of a system like that being investigated by the Scholar's Dashboard.
- To fulfill the visualization and analysis requirements of Scholar's Dashboard, significant analysis and design would be necessary.
- A progressive series of development over time would be necessary to 1) develop an appropriate set of analytical and visualization tools, 2) develop a suitable platform for publication or depiction of data or findings, 3) synchronize system capabilities with organizational management strategies, and 4) design a proper cost model to ensure the long term viability of the system,

## Next Steps / Roadmap

Mitigating the circumstances created by the decommissioning of the DRC can be categorized into the following strategies:

Strategy Description	Action Req'd	Description/Benefits
Develop Governance	Immediate	A Governance Board will establish ongoing standards and guidelines for the OhioLINK community. This might be in anticipation of a future system (either a Scholars Dashboard implementation or in conjunction with the Digital Public Libraries of America). A Governance Board could develop strategies for developing awareness and support for Scholars Dashboard initiative.
Develop/Publish Guidelines	Immediate	Per the work of the Governance Board, guidelines will continue to promote metadata consistency, and promote as well consistency of curation processes and software systems across member institutions.
Explore Collaborative Relationships	Ongoing	The Digital Public Libraries of America (DPLA) perhaps partly fulfills what was envisioned for Scholars Dashboard. What's the best path for collaboration with DPLA? Non-Humanities disciplines are seeking much of the same, if not identical, set of capabilities envisioned for Scholars Dashboard. What's the best path for collaboration with non-Humanities efforts? Develop strategies for developing and promoting awareness and support for Scholars Dashboard initiative.
Pursue Prototype Development	6-12 months	Prototype development for a basic repository, to test concepts of ingestion, rights management and digital curation, metadata management, and visualization techniques discussed during these workshops is within reach.



## **Develop Governance / Develop and Publish Guidelines / Explore Collaborative Relationships**

Governance policies and guidelines could include, but certainly not be not limited to, the following:

- Guidelines for curation, including cataloging cultural objects.
- Onboarding of non-affiliated libraries or collections.
- Focus initially on Humanities but develop strategies for outreach to other disciplines or initiatives (e.g., STEM education initiatives, K-12 for classroom needs, Chamber of Commerce, Tourism, Cultural and Civic organizations).
- Develop strategies for community development, promotional and public relation activities that can lead to sustainable institutional as well as private donor involvement.
- Relationship building would include reaching out to Institutional Development programs at member institutions, members of the Ohio Legislature.

Other, more tactical, considerations:

- Identify organizations pursuing similar "Scholars Dashboard" efforts (or digital repositories or digital research efforts). What strategies are being used? What cost model is being employed?
- Inventory and categorize collections across OhioLINK institutions. This is information gathering for a future system.
- Inventory potential users and user accounts across OhioLINK institutions. This is information gathering for a future system.
- Does OhioLINK and member institutions have the right technical and management resources for whatever strategies are decided upon? If not, how can the proper resources be identified?
- Identify technologies or products that can fulfill both short term and long term needs for OhioLINK and member institutions.
- Develop collaborative relationship with the DPLA. How are other peer State organizations working with DPLA?
- Grant funding could be pursued to support any of the efforts listed above.

A Governance Board would not necessarily include representation from each member institution but should have a communication network where governance board issues are declared and any decision making events can be announced in advance. Any number of committees or sub-committees, again composed of member institution representation as seen fit, can be delegated tasks and report/recommend to the Governance Board for any final deliberation.

## **Risks and Issues**

The following items pose a certain level of risk to the ongoing effort to manage new and existing digital collections among the OhioLINK member institutions:

- Costs and long term sustainability - There is an overall need to address funding for any

new effort moving forward. This includes the development of a sustainable cost model for either a centralized or federated structure.

- Creation and maintenance of metadata - With the decommissioning of the DRC scheduled for December 31, 2013, it becomes even more important for member institutions to maintain a high level of coherence in the use of metadata, to allow for a future system to effectively work with the disparate systems.
- Cultural and Organizational Issues - Change management due to the budget cuts and the decommissioning of the DRC should be managed by a Governing body that can provide guidance and some level of enforcement.
- Explore ongoing digital repository development and leverage non-Humanities related content and capabilities.
- A proposed Scholar's Dashboard system is likely to be more resource-intensive than current implementation of D-Space, both in terms of hardware and administration. Will require contributions in money and in kind from OhioLINK member institutions, perhaps distributing work among IT personnel of member institutions.
- Skilled resources - Moving forward, what types of skills will be needed and who will own the resources? What would be the cost of in-house resource and what would be their likely utilization?
- Technical Issues - If a future hosted is centralized, will the system be hosted or on-premise? Either option has its own inherent requirements and will require different types and levels of management and support.
- Rights Management functionality - the ability to control and enforce viewing, copying, printing and alteration of any digital works - will be a key differentiating factor for a future system.

## Appendix A. Workshop Participants

Last	First	Institution	Email	Role/Discipline	Space Nov 8, 9 2012	Time Feb 7, 8 2013	Identity May 9,10 2013
Boff	Colleen	BGSU					
Bricking	Stephanie	Cincinnati	<a href="mailto:stephanie.bricking@uc.edu">stephanie.bricking@uc.edu</a>	archivist		1	
Calder	Jim	Ohio Humanities Council	<a href="mailto:jimc@ohiohumanities.org">jimc@ohiohumanities.org</a>	public humanities			1
Carleton	Janet	Ohio	<a href="mailto:carleton@ohio.edu">carleton@ohio.edu</a>	digital archivist		1	1
Challu	Amilcar	BGSU	<a href="mailto:achallu@bgsu.edu">achallu@bgsu.edu</a>	historian			
Craft	Jeff	OhioLINK	<a href="mailto:jeff@ohiolink.edu">jeff@ohiolink.edu</a>	Technologist	1		
Davis	Will	Wright	<a href="mailto:william.davis@wright.edu">william.davis@wright.edu</a>	librarian/technologist	1		
Davison	John	OhioLINK	<a href="mailto:john@ohiolink.edu">john@ohiolink.edu</a>	Technologist			
DeStefanis	Anthony	Otterbein	<a href="mailto:ADeStefanis@otterbein.edu">ADeStefanis@otterbein.edu</a>	historian			
Dirks-Schuster	Whitney	OSU	<a href="mailto:dirks-schuster.1@osu.edu">dirks-schuster.1@osu.edu</a>	historian (ABD)	1		
Donahue	Matthew	BGSU	<a href="mailto:mattdon@bgsu.edu">mattdon@bgsu.edu</a>	PopC		1	1
Evans	Gwen	Ohiolink	<a href="mailto:gevans@oh-tech.org">gevans@oh-tech.org</a>	Executive Director			
Frazer	Meghan	Knowlton/OSU	<a href="mailto:frazer.11@osu.edu">frazer.11@osu.edu</a>	digital curator	1	1	
Frazier	Nishani	Miami	<a href="mailto:frazien@miamiohio.edu">frazien@miamiohio.edu</a>	history			
Harfmann	Anton	Cincinnati	<a href="mailto:anton.harfmann@uc.edu">anton.harfmann@uc.edu</a>	architect	1		
Hertenstein	Libby	BGSU	<a href="mailto:eherten@bgsu.edu">eherten@bgsu.edu</a>	digital		1	
Hopper	Shawn	Axia	<a href="mailto:shawn.hopper@axiaconsulting.net">shawn.hopper@axiaconsulting.net</a>	Consultant	1		
Kennedy	Colleen	OSU	<a href="mailto:kennedy.623@buckeyemail.osu.edu">kennedy.623@buckeyemail.osu.edu</a>	English			
Krome	Frederic	Cincinnati	<a href="mailto:kromefj@ucmail.uc.edu">kromefj@ucmail.uc.edu</a>	history		1	
Laus	Eric	Axia	<a href="mailto:eric.laus@axiaconsulting.net">eric.laus@axiaconsulting.net</a>	Consultant	1		
Lengel	Lara	BGSU	<a href="mailto:lengell@bgsu.edu">lengell@bgsu.edu</a>	communications			1
Lewis	Karen	Knowlton/OSU	<a href="mailto:lewis.1512@osu.edu">lewis.1512@osu.edu</a>	architect	1		
Maulden	Kristopher	Wright	<a href="mailto:kristopher.maulden@wright.edu">kristopher.maulden@wright.edu</a>	history		1	
Meyer	Elizabeth	Cincinnati	<a href="mailto:elizabeth.meyer@uc.edu">elizabeth.meyer@uc.edu</a>	digital archivist	1		
Michney	Todd	Toledo	<a href="mailto:todd.michney@utoledo.edu">todd.michney@utoledo.edu</a>	Historian	1		
Miles	Marsha	Cleveland State	<a href="mailto:m.a.miles24@csuohio.edu">m.a.miles24@csuohio.edu</a>	digital initiatives		1	1
Millard	John	Miami	<a href="mailto:millarj@muohio.edu">millarj@muohio.edu</a>		1		1
Miller	Abigail	Kenyon	<a href="mailto:millerae@kenyon.edu">millerae@kenyon.edu</a>	digital resources		1	
Modarelli	Michael	Walsh University	<a href="mailto:mmodarelli@walsh.edu">mmodarelli@walsh.edu</a>	literature			
Nichols	Diana	Ohio	<a href="mailto:nicholsd@ohio.edu">nicholsd@ohio.edu</a>	cataloger/metada		1	
Pati	Debashree	OhioLINK	<a href="mailto:dpati@ohiolink.edu">dpati@ohiolink.edu</a>	Developer	1		
Perkins	Jody	Miami	<a href="mailto:perkintj@muohio.edu">perkintj@muohio.edu</a>	metadata			1
Reamer	Nicki	BGSU	<a href="mailto:nreamer@bgsu.edu">nreamer@bgsu.edu</a>				1
Rosati	Clayton	BGSU	<a href="mailto:crosati@bgsu.edu">crosati@bgsu.edu</a>	geographer	1		
Russell	James	OhioLINK	<a href="mailto:james@ohiolink.edu">james@ohiolink.edu</a>	Developer	1		
Sabharwal	Arjun	Toledo	<a href="mailto:arjun.sabharwal@utoledo.edu">arjun.sabharwal@utoledo.edu</a>	digital archivist	1	1	1
Salsich	Anne	Oberlin	<a href="mailto:Anne.Salsich@oberlin.edu">Anne.Salsich@oberlin.edu</a>	librarian curator	1		
Schocket	Andy	BGSU	<a href="mailto:aschock@bgsu.edu">aschock@bgsu.edu</a>				1
Sheffield	Ric	Kenyon	<a href="mailto:sheffier@kenyon.edu">sheffier@kenyon.edu</a>	Legal studies			1
Smith	Jeff	OAR	<a href="mailto:jsmith@oar.net">jsmith@oar.net</a>	Technologist	1		1
Smith	Jeff	OH-TECH	<a href="mailto:jsmith@oar.net">jsmith@oar.net</a>	Lead DBA			
Spellman	Susan	Miami	<a href="mailto:spellmsv@muohio.edu">spellmsv@muohio.edu</a>	history		1	
Staley	David	OSU	<a href="mailto:staley.3@asc.ohio-state.edu">staley.3@asc.ohio-state.edu</a>	historian	1		
Stephens	Michele	Denison	<a href="mailto:stephensm@denison.edu">stephensm@denison.edu</a>	historian			
Tebeau	Mark	Cleveland State	<a href="mailto:m.tebeau@csuohio.edu">m.tebeau@csuohio.edu</a>				
Tousey	Liz	BGSU	<a href="mailto:etousey@bgsu.edu">etousey@bgsu.edu</a>	librarian			1
Tzoc	Elías	Miami	<a href="mailto:tzoc@muohio.edu">tzoc@muohio.edu</a>	digital initiatives		1	
Warga	Julia	Kenyon	<a href="mailto:glynnj@kenyon.edu">glynnj@kenyon.edu</a>	librarian			1
Wochna	Lorraine	Ohio	<a href="mailto:wochna@ohio.edu">wochna@ohio.edu</a>	librarian			1
Zickel	Lee	Case-Western	<a href="mailto:lxz11@case.edu">lxz11@case.edu</a>			1	

## Appendix B. High Level Functional and Technical Requirements

The following table lists high level technical and functional requirements, compiled from all workshops conducted for this project.

Req No	Description	Category	Sub-Category
1	Define and enforce management and preservation requirements	Functional	Curation
2	Facilitate authenticity verification for all artifacts and collections	Functional	Curation
3	Facilitate Rights Management for all artifacts and collections	Functional	Curation
4	Identify or flag materials that might need redaction	Functional	Curation
5	Identify or flag redundancy or duplicates	Functional	Curation
6	Provide aging information on artifacts and collections.	Functional	Curation
7	Provide Workflow capabilities	Functional	Curation
8	Report on usage of artifacts or collections (e.g. last use date, last used by)	Functional	Curation
9	Support EXPORT capabilities to common file types	Functional	Curation
10	Support the use of Dark Archival (non-sharable archives, usually for disaster recovery)	Functional	Curation
11	Support the use of Verified and Unverified tags	Functional	Curation
12	The use of artifacts and collections must adhere to donation restrictions set by the donor	Functional	Curation
13	Supports audio and video streaming	Functional	General

Req No	Description	Category	Sub-Category
14	Supports Class room work - collaborative interface - have students crowdsource evaluating artifacts (e.g. photos) - supports collaboration and crowdsourcing scenarios to assess class room work as: meeting or exceeding requirements, exceeding prior instances, is it good quantitatively? - use of workflow to move evaluated artifacts into professor's queue - separate metadata levels for instructor and student - integration of school/class/enrollment information; information is automatically imported into repository - supports podcasts	Functional	General
15	Allow users to add to the collections	Functional	Ingestion
16	Capture GIS information for relevant artifacts or collections	Functional	Ingestion
17	Provide Automated Classification of artifacts	Functional	Ingestion
18	Provide capability to update a collection automatically	Functional	Ingestion
19	Provide IMPORT capabilities for common file types	Functional	Ingestion
20	Allow for specific schemas for different disciplines	Functional	Metadata
21	Allow Tags to be defined/customized to the researcher's reading	Functional	Metadata
22	Freeform categorization - owner / viewer / creator / interpretation	Functional	Metadata
23	Include social media conventions such as: Number of Views, Ratings, Tags, and Comments.	Functional	Metadata
24	Move between ad hoc and systematized tagging keywords and classification	Functional	Metadata
25	Provide capability for designating Visual or Spatial orientation (e.g. inside, outside)	Functional	Metadata
26	Provide capability to organize administrative portion of schema	Functional	Metadata
27	Support multi-dimensional tags	Functional	Metadata

Req No	Description	Category	Sub-Category
28	Support multiple creation dates	Functional	Metadata
29	Allow for the use of footnotes and citations within descriptions	Functional	QA
30	Identify mis-attributed images	Functional	QA
31	Provide capability for Risk management of content	Functional	QA
32	Provide capability to generate result sets, tables, graphs, timelines, auto generated url	Functional	Reporting
33	Ability to "learn" from user behavior or prior user searches	Functional	Search
34	Ability to infer interesting keywords	Functional	Search
35	Ability to narrow findings to relevant criteria - scale, projections, dates, etc.	Functional	Search
36	Ability to predict what might be valuable or interesting	Functional	Search
37	Allow a search scenario that returns all sources given certain tabs or tab combinations	Functional	Search
38	Allow capability for Tags to infer metadata	Functional	Search
39	Allow for both general public queries and more sophisticated digital humanities (DH) projects. Accordingly, must have portal to allow for differing levels of interaction with collections and tools so as to emphasize ease of use for more casual users and fine-grained flexibility for expert users.	Functional	Search
40	Allow for flexible search, i.e. unions with exceptions (this, but not that)	Functional	Search
41	Allow for searching and analysis of both DRC-hosted and DRC-affiliated collections. Solution must therefore have retention policy and other assurances (formatting, metadata, etc.) regarding both kinds of collections.	Functional	Search
42	Identify similar or related research projects and their researchers	Functional	Search
43	Provide capability for a learning recommendation engine, ability to enhance searches and analyses based upon	Functional	Search

Req No	Description	Category	Sub-Category
	previous searches and analyses.		
44	Provide capability for searchable Handwriting recognition	Functional	Search
45	Provide capability such that all artifacts and collections, including reports, maps, data are Archivable and Discoverable	Functional	Search
46	Provide Clipping services	Functional	Search
47	Provide search capability that encompasses all collections in DRC and OhioLINK affiliated libraries	Functional	Search
48	Searches can infer/recommend additional related sources	Functional	Search
49	Searches can infer/recommend additional related topics	Functional	Search
50	Searches can infer/recommend additional Research projects.	Functional	Search
51	Support syntactic interpretation	Functional	Search
52	Allow a user to self-designate interests, and levels of interest	Functional	Security
53	Allow guests to have access to the system	Functional	Security
54	Employ a role based security scheme for user access, where users are allowed to provision a profile and log-in credentials	Functional	Security
55	Employ an audit trail to track changes to the system (who, what, when, data before the change, data after the change)	Functional	Security
56	Interface/Search/General functional capabilities morphs to the Community of Practice	Functional	Security
57	Must be publicly accessible, and collections must be publicly accessible, with the understanding that there may be individual records with restricted use because of privacy, national security, copyrights, or other concerns. (From: OhioLINK)	Functional	Security
58	Users encompass Faculty, Staff, Students, Curators, Librarians, Researchers	Functional	Security

Req No	Description	Category	Sub-Category
59	Allow for notes and comments to be graded with keywords to tags	Functional	Socialization
60	Facilitate and encourage scholarly communication and sharing	Functional	Socialization
61	Incentivize submission of content (like Flickr or Picasa)	Functional	Socialization
62	Rate/Comment/Tag the quality of the artifact/collection	Functional	Socialization
63	Low threshold of expertise to use (i.e. little or no training required)	Functional	User Interface
64	Provide a full feature, web based application through a best practice graphical user interface (i.e. rich internet application with searchable pick lists, filtering pick lists, appropriate preservation of screen data as end user navigates through the system, coherent error messages, etc.)	Functional	User Interface
65	Provide capability to infer color from black-and-white	Functional	User Interface
66	Qualitative brief - to skim the meaning of the artifact or the collection, identify relationships between artifacts - parent / part of network / missing relational items	Functional	User Interface
67	Support multiple languages (low priority)	Functional	User Interface
68	All the capability for Visualizations to be saved, retrieved, and linked to	Functional	Visualization
69	Allow visualizations (statistical or spatial) with overlays.	Functional	Visualization
70	Depict Historiographical changes over time	Functional	Visualization
71	Depict relationships of distance and proximity	Functional	Visualization
72	Discern shape of an entire collection	Functional	Visualization
73	Easy ways to graph for visual display	Functional	Visualization
74	Generate Maps based on certain criteria, such as time or space	Functional	Visualization



Req No	Description	Category	Sub-Category
75	Generate Maps capable of overlays	Functional	Visualization
76	Generate Time and Space Visualizations	Functional	Visualization
77	Provide access to Stitching tools	Functional	Visualization
78	Provide capability as a publishing platform	Functional	Visualization
79	Show Visual morphing over time	Functional	Visualization
80	Support the use of Heat Maps	Functional	Visualization
81	Balance metadata need and the volume content - aim for "protean" metadata	Technical	Arch/IT Environ
82	Build and leverage on existing products already in use	Technical	Arch/IT Environ
83	Handle complex or compound objects (multiple data types within a single object)	Technical	Arch/IT Environ
84	Ideally to be open-source if possible, and at least useable as a model for other implementations. (From NEH)	Technical	Arch/IT Environ
85	Implement a Hybrid approach to metadata model - leverages strengths of both central and distributed architectures and minimizes risk.	Technical	Arch/IT Environ
86	Provide adequate backup and restore procedures to protect against loss of data due to accidental user actions, database corruption, hardware failures, and Disaster Recovery scenarios.	Technical	Arch/IT Environ
87	Provide well documented APIs	Technical	Arch/IT Environ
88	Support for distributed repositories / heterogeneous content	Technical	Arch/IT Environ
89	Support for mobile devices - pda, tablet, cell phone, laptop	Technical	Arch/IT Environ
90	Support QuickNote and Catalogue Share	Technical	Arch/IT Environ
91	Support synchronization across devices - mobile, tablet,	Technical	Arch/IT

Req No	Description	Category	Sub-Category
	cell phone, laptop		Environ
92	Support the use of Add-ins	Technical	Arch/IT Environ
93	Support Web 2.0 collaborative, online publication tools.	Technical	Arch/IT Environ
94	Utilize a Distributed platform	Technical	Arch/IT Environ
95	Utilize Cloud architecture for cost and maintainability	Technical	Arch/IT Environ

## Appendix C. Resource Websites and Software Tools

The following table lists noted websites, software tools, and industry sources that were thought to be notable examples for defining the Scholars Dashboard functional requirements and vision. Items listed were compiled from all workshops conducted for this project.

Websites/Tools	Description
adobe connect	Collaborative dashboard; advanced web conferencing for any device.
aquabrowser	Search interface; <a href="http://www.serialssolutions.com/en/services/aquabrowser">www.serialssolutions.com/en/services/aquabrowser</a>
arcgis	Mapping and spatial analysis; <a href="http://www.esri.com/software/arcgis">www.esri.com/software/arcgis</a>
evernote	Note taking and archiving tool; <a href="http://www.evernote.com">www.evernote.com</a>
excel	Spreadsheet tool for Microsoft Office
flickr	Photo management and sharing; <a href="http://www.flickr.com">www.flickr.com</a>
google docs	Google product suite for document creation, management; <a href="http://docs.google.com">docs.google.com</a>
google fusion	Google data visualization and data management app; <a href="http://sites.google.com/site/fusiontablestalks">sites.google.com/site/fusiontablestalks</a>
historypin.com	Archive of photos, videos, audio recordings and personal recollections; <a href="http://www.historypin.com">www.historypin.com</a>
many eyes	Data visualization tools from IBM; <a href="http://www-958.ibm.com">www-958.ibm.com</a>
map ninja	map widget example
microsoft office	Suite of document management products from Microsoft
omeka	Open source web publishing platform; <a href="http://www.omeka.org">www.omeka.org</a>
pinterest	Content sharing service; <a href="http://www.pinterest.com">www.pinterest.com</a>
sophie project	Multimedia authoring and publication tool; <a href="http://sophieproject.org">sophieproject.org</a>
stanford spatial history	Collaborative community for history scholars; <a href="http://www.stanford.edu/group/spatialhistory">http://www.stanford.edu/group/spatialhistory</a>
vimeo	Video-centric social network, examples of tagging; <a href="http://www.vimeo.com">www.vimeo.com</a>
republic of letters	Visual mapping of republic of letters, example of visualization;

Websites/Tools	Description
	<a href="http://www.stanford.edu/group/toolingup/rplviz/">http://www.stanford.edu/group/toolingup/rplviz/</a>
youtube	Video repository; <a href="http://www.youtube.com">www.youtube.com</a>
zotero	Firefox browser add-on for bibliographic data and related materials; <a href="http://www.zotero.org">www.zotero.org</a>

**Appendix 8:**  
**Scholar's Dashboard Technical and Functional Requirements**

# SCHOLAR'S DASHBOARD

[www.scholarsdashboard.org](http://www.scholarsdashboard.org)



NATIONAL ENDOWMENT FOR THE  
Humanities

A series of workshops held in 2012-2013 of humanities scholars, librarians and archivists, and technologists to generate functional and technical requirements for the next generation of online repositories.

Scholar's Dashboard was made possible in part by the National Endowment for the Humanities: Exploring the human endeavor

## High Level Functional and Technical Requirements

The following table lists high level technical and functional requirements, compiled from all workshops conducted for this project.

Req No	Description	Category	Sub-Category
C1	Define and enforce management and preservation requirements	Functional	Curation
C2	Facilitate authenticity verification for all artifacts and collections	Functional	Curation
C3	Facilitate rights management for all artifacts and collections	Functional	Curation
C4	Identify or flag materials that might need redaction	Functional	Curation
C5	Identify or flag redundancy or duplicates	Functional	Curation
C6	Provide aging information on artifacts and collections.	Functional	Curation
C7	Provide workflow capabilities	Functional	Curation
C8	Support export capabilities to common file types	Functional	Curation
C9	Support the use of dark archival (non-sharable) archives	Functional	Curation
C10	Support the use of verified and unverified tags	Functional	Curation
C11	The use of artifacts and collections must adhere to donation restrictions	Functional	Curation

<b>Req No</b>	<b>Description</b>	<b>Category</b>	<b>Sub-Category</b>
G1	Support audio and video streaming	Functional	General
G2	Support podcasts, RSS, blogs, social media	Functional	General
G3	Supports pedagogy - collaborative interface - allow students to crowdsource evaluating artifacts - supports collaboration and crowdsourcing scenarios to assess class room work  - use of workflow to move evaluated artifacts into instructor's queue - separate metadata levels for instructor and student - integration of school/class/enrollment information; information is automatically imported into repository (integration through with CMS systems)	Functional	General
I1	Allow bulk upload in variety of formats	Functional	Ingestion
I2	Allow users to add to the collections	Functional	Ingestion
I3	Capture GIS information for relevant artifacts or collections	Functional	Ingestion
I4	Provide automated classification of artifacts	Functional	Ingestion
I5	Provide capability to update a collection automatically	Functional	Ingestion
I6	Provide import capabilities for common file types	Functional	Ingestion
M1	Allow for specific schemas for different disciplines	Functional	Metadata
M2	Allow tags to be defined/customized to the researcher's reading	Functional	Metadata
M3	Freeform categorization - owner / viewer / creator / interpretation	Functional	Metadata
M4	Include social media conventions such as: number of views, ratings, tags, and comments.	Functional	Metadata
M5	Move between ad hoc and systematized tagging keywords and classification	Functional	Metadata
M6	Provide capability for designating visual or spatial orientation of artifacts, artifact content	Functional	Metadata

<b>Req No</b>	<b>Description</b>	<b>Category</b>	<b>Sub-Category</b>
M7	Provide capability to organize administrative portion of schema	Functional	Metadata
M8	Support multi-dimensional tags	Functional	Metadata
M9	Support multiple creation dates for artifacts	Functional	Metadata
M10	Support Dublin Core, OAI and other open data standards	Functional	Metadata
QA1	Identify misattributed images	Functional	QA
QA2	Provide capability for risk management of content	Functional	QA
QA3	Provide reviewing interface with different levels of user security	Functional	QA
R1	Report on searches, user paths, use of particular functionalities, usage of artifacts or collections, and by various criteria through dashboard and/or regular expressions	Functional	Reporting
R2	Ability to export collection, usage data	Functional	Reporting
S1	Provide capability to generate result sets, tables, graphs, timelines, auto-generated stable url for search results	Functional	Search
S2	Ability to "learn" from user behavior or prior user searches	Functional	Search
S3	Ability to infer interesting keywords	Functional	Search
S4	Ability to narrow findings to relevant criteria - scale, projections, dates, etc.	Functional	Search
S5	Ability to predict what might be valuable or interesting	Functional	Search
S6	Allow a search scenario that returns all sources given certain tabs or tab combinations	Functional	Search
S7	Allow capability for tags to infer metadata	Functional	Search
S8	Allow for both general public queries and more sophisticated digital humanities (DH) projects. Accordingly, must have portal to allow for differing levels of interaction with collections and tools so as to emphasize ease of use for more casual users	Functional	Search



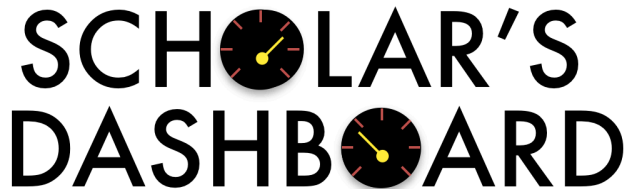

<b>Req No</b>	<b>Description</b>	<b>Category</b>	<b>Sub-Category</b>
	and fine-grained flexibility for expert users.		
S9	Allow for flexible search, both through menu interface for novice users and regular expressions for advanced users	Functional	Search
S10	Allow for searching and analysis of hosted and affiliated collections. Solution must therefore have retention policy and other assurances (formatting, metadata, etc.) regarding both kinds of collections.	Functional	Search
S11	Identify similar or related research projects and their researchers	Functional	Search
S12	Provide capability for a learning recommendation engine, ability to enhance searches and analyses based upon previous searches and analyses.	Functional	Search
S13	Provide capability for searchable handwriting recognition	Functional	Search
S14	Provide capability such that all artifacts and collections, including reports, maps, data are archivable and discoverable	Functional	Search
S15	Searches can infer/recommend additional related sources	Functional	Search
S16	Searches can infer/recommend additional related topics	Functional	Search
S17	Searches can infer/recommend additional research projects.	Functional	Search
S18	Support syntactic interpretation	Functional	Search
Se1	Allow a user to self-designate interests, and levels of interest	Functional	Security
Se2	Allow guests to have access to the system	Functional	Security
Se3	Employ a role based security scheme for user access, where users are allowed to provision a profile and log-in credentials	Functional	Security

<b>Req No</b>	<b>Description</b>	<b>Category</b>	<b>Sub-Category</b>
Se4	Employ an audit trail to track system changes	Functional	Security
Se5	Interface/search/general functional capabilities morphs to the community of practice	Functional	Security
Se6	Must be publicly accessible, and collections must be publicly accessible, with the understanding that there may be individual records with restricted use because of privacy, national security, copyrights, or other concerns.	Functional	Security
Se7	Users and user levels encompass faculty, staff, students, curators, librarians, researchers, general public	Functional	Security
So1	Allow for individual accounts to save searches, search results, communications with other users	Functional	Socialization
So2	Allow for notes and comments to be graded with keywords to tags	Functional	Socialization
So3	Facilitate and encourage scholarly communication and sharing	Functional	Socialization
So4	Incentivize submission of content (like Flickr or Picasa)	Functional	Socialization
So5	Rate/comment/tag the quality of the artifact/collection	Functional	Socialization
UI1	Low threshold of expertise to use (i.e. little or no training required)	Functional	User Interface
UI2	Provide a full feature, web-based application through a best practice graphical user interface (i.e. rich internet application with searchable pick lists, filtering pick lists, appropriate preservation of screen data as end user navigates through the system, coherent error messages, etc.)	Functional	User Interface
UI3	Provide capability to infer color from black-and-white	Functional	User Interface
UI4	Qualitative brief - to skim the meaning of the artifact or the collection, identify relationships between artifacts - parent / part of network / missing relational items	Functional	User Interface

<b>Req No</b>	<b>Description</b>	<b>Category</b>	<b>Sub-Category</b>
UI5	Supply COinS (ContextObjects in Spans) metadata and clippable citation information for all pages, search results	Functional	User Interface
UI6	Compatibility with Web Accessibility Initiative (WAI)	Functional	User Interface
UI7	Provide clipping services	Functional	User Interface
UI8	Support multiple languages	Functional	User Interface
V1	Capability for visualizations to be saved, retrieved, and linked to	Functional	Visualization
V2	Generate time and space visualizations based upon multiple criteria	Functional	Visualization
V3	Allow visualizations (statistical or spatial) with overlays.	Functional	Visualization
V4	Depict relationships of distance and proximity	Functional	Visualization
V5	Discern shape of an entire collection	Functional	Visualization
V6	Easy ways to graph for visual display	Functional	Visualization
V7	Support social network visualizations abstractly, also over time and across space	Functional	Visualization
V8	Provide access to stitching tools	Functional	Visualization
V9	Provide capability as a publishing platform	Functional	Visualization
V10	Show visual morphing over time	Functional	Visualization
V11	Support the use of heat maps	Functional	Visualization
V12	Allow export of visualizations in standards formats (.pdf, .gif)	Functional	Visualization
AIT1	Balance metadata need and the volume content - aim for "protean" metadata	Technical	Arch/IT Environ
AIT2	Build and leverage on existing products already in use	Technical	Arch/IT Environ
AIT3	Handle complex or compound objects (multiple data	Technical	Arch/IT

<b>Req No</b>	<b>Description</b>	<b>Category</b>	<b>Sub-Category</b>
	types within a single object)		Environ
AIT4	Ideally to be open-source, and at least useable as a model for other implementations.	Technical	Arch/IT Environ
AIT5	Implement a hybrid approach to metadata model - leverages strengths of both central and distributed architectures and minimizes risk.	Technical	Arch/IT Environ
AIT6	Provide adequate backup and restore procedures to protect against loss of data due to accidental user actions, database corruption, hardware failures, and disaster recovery scenarios.	Technical	Arch/IT Environ
AIT7	Provide well documented APIs	Technical	Arch/IT Environ
AIT8	Support for distributed repositories / heterogeneous content	Technical	Arch/IT Environ
AIT9	Device agnostic: adherent to latest internet standards	Technical	Arch/IT Environ
AIT10	Support OAI and other open data standards	Technical	Arch/IT Environ
AIT11	Support synchronization across devices - mobile, tablet, cell phone, laptop	Technical	Arch/IT Environ
AIT12	Support the use of add-ons or plug-ins	Technical	Arch/IT Environ
AIT13	Support web 2.0 collaborative, online publication tools.	Technical	Arch/IT Environ
AIT14	Utilize a distributed platform	Technical	Arch/IT Environ
AIT15	Utilize cloud architecture for cost and maintainability	Technical	Arch/IT Environ

**Appendix 9:**  
**Poster for 2014 Digital Humanities Summer Institute Colloquium**

<b>Curation</b> Define and enforce management and preservation requirements Facilitate authenticity verification for all artifacts and collections Facilitate rights management for all artifacts and collections Identify or flag materials that might need redaction Identify or flag redundancy or duplicates Provide aging information on artifacts and collections. Provide workflow capabilities Support export capabilities to common file types Support the use of dark archival (non-sharable) archives Support the use of verified and unverified tags The use of artifacts and collections must adhere to donation restrictions	<b>Visualization</b> Capability for visualizations to be saved, retrieved, and linked to Generate time and space visualizations based upon multiple criteria Allow visualizations (statistical or spatial) with overlays. Depict relationships of distance and proximity Discern shape of an entire collection Easy ways to graph for visual display Support social network visualizations abstractly, also over time and across space Provide access to stitching tools Provide capability as a publishing platform Show visual morphing over time Support the use of heat maps Allow export of visualizations in standards formats (.pdf, .gif)	<b>User Interface</b> Low threshold of expertise to use (i.e. little or no training required) Provide a full feature, web-based application through a best practice graphical user interface (i.e. rich internet application with searchable pick lists, filtering pick lists, appropriate preservation of screen data as end user navigates through the system, coherent error messages, etc.) Provide capability to infer color from black-and-white Qualitative brief - to skim the meaning of the artifact or the collection, identify relationships between artifacts - parent / part of network / missing relational items Supply COinS (ContextObjects in Spans) metadata and clippable citation information for all pages, search results Compatibility with Web Accessibility Initiative (WAI) Provide clipping services Support multiple languages
<b>Ingestion</b> Allow bulk upload in variety of formats Allow users to add to the collections Capture GIS information for relevant artifacts or collections Provide automated classification of artifacts Provide capability to update a collection automatically Provide import capabilities for common file types	<div data-bbox="730 480 1350 667">  </div> <div data-bbox="747 678 1323 781"> <p>A series of workshops held in 2012-2013 of humanities scholars, librarians and archivists, and technologists to generate functional and technical requirements for the next generation of online repositories.</p> <p><a href="http://www.scholarsdashboard.org">www.scholarsdashboard.org</a></p> </div> <div data-bbox="711 808 1356 834"> <p>Project Director: Gwen Evans      Project Manager: Andrew M. Schocket</p> </div> <div data-bbox="720 834 1335 914">  </div> <div data-bbox="747 922 1320 976"> <p>Scholar's Dashboard was made possible in part by the National Endowment for the Humanities: Exploring the human endeavor</p> </div>	
<b>Metadata</b> Allow for specific schemas for different disciplines Allow tags to be defined/customized to the researcher's reading Freeform categorization - owner / viewer / creator / interpretation Include social media conventions such as: number of views, ratings, tags, and comments. Move between ad hoc and systematized tagging keywords and classification Provide capability for designating visual or spatial orientation of artifacts, artifact content Provide capability to organize administrative portion of schema Support multi-dimensional tags Support multiple creation dates for artifacts Support Dublin Core, OAI and other open data standards	<b>Architecture/IT Environment</b> Balance metadata need and the volume content - aim for "protean" metadata Build and leverage on existing products already in use Handle complex or compound objects (multiple data types within a single object) Ideally to be open-source, and at least useable as a model for other implementations. Implement a hybrid approach to metadata model - leverages strengths of both central and distributed architectures and minimizes risk. Provide adequate backup and restore procedures to protect against loss of data due to accidental user actions, database corruption, hardware failures, and disaster recovery scenarios. Provide well documented APIs Support for distributed repositories / heterogeneous content Device agnostic: adherent to latest internet standards Support OAI and other open data standards Support synchronization across devices - mobile, tablet, cell phone, laptop Support the use of add-ons or plug-ins Support web 2.0 collaborative, online publication tools. Utilize a distributed platform Utilize cloud architecture for cost and maintainability	<b>Search</b> Provide capability to generate result sets, tables, graphs, timelines, auto-generated stable url for search results Ability to "learn" from user behavior or prior user searches Ability to infer interesting keywords Ability to narrow findings to relevant criteria Ability to predict what might be valuable or interesting Allow a search scenario that returns all sources given certain tabs or tab combinations Allow capability for tags to infer metadata Allow for both general public queries and more sophisticated digital humanities (DH) projects. Accordingly, must have portal to allow for differing levels of interaction with collections and tools so as to emphasize ease of use for more casual users and fine-grained flexibility for expert users. Allow for flexible search, both through menu interface for novice users and regular expressions for advanced users Allow for searching and analysis of hosted and affiliated collections. Solution must therefore have retention policy and other assurances (formatting, metadata, etc.) regarding both kinds of collections. Identify similar or related research projects and their researchers Provide capability for a learning recommendation engine, ability to enhance searches and analyses based upon previous searches and analyses. Provide capability for searchable handwriting recognition Provide capability such that all artifacts and collections, including reports, maps, data are archivable and discoverable Searches can infer/recommend additional related sources Searches can infer/recommend additional related topics Searches can infer/recommend additional research projects. Support syntactic interpretation
<b>General</b> Supports audio and video streaming Supports classroom work - collaborative interface - have students crowdsource evaluating artifacts (e.g. photos) - supports collaboration and crowdsourcing scenarios to assess class room work as: meeting or exceeding requirements, exceeding prior instances, meeting qualitative criteria - use of workflow to move evaluated artifacts into professor's queue - separate metadata levels for instructor and student - integration of school/class/enrollment information; information is automatically imported into repository	<b>Security, Reporting, and Quality Assurance</b> Seven security requirements, two reporting requirements, and three quality assurance requirements.	<b>Socialization</b> Allow for individual accounts to save searches, search results, communications with other users Allow for notes and comments to be graded with keywords to tags Facilitate and encourage scholarly communication and sharing Incentivize submission of content (like Flickr or Picasa) Rate/comment/tag the quality of the artifact/collection